
Workshop B

Producer-Industry Relationships in a Biobased Economy

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Our group was assigned the task of exploring how the transition to a biobased economy will affect relationships between producers and the industries that process and market food, fiber and fuel.

THE ISSUES IDENTIFIED

In our first session, we identified twenty-two issues concerning the development of new relationships between producers of agricultural products and the industries that process and market them. Points were assigned to each, and five key issues emerged:

- How can farmers achieve alternative modes of organization so as to capture markets and control the end (final, processed) products in order to reduce the volatility of those markets? How can these alternative modes of organization be financed?
- The transition to a biobased economy will put farmers in an environment of changing technology and markets. How can producers anticipate and embrace change in order to reap its benefits rather than suffer its negative consequences?
- How can producers acquire the skills and attitudes needed to survive in a much changed business environment? Alliances will become more important and individual entrepreneurship will decrease. In an environment that is technologically sophisticated, the ability to take advantage of value-added opportunities will be critical.
- How can farmers deal with the liability that results from increased involvement in processing and marketing?

- New processing facilities will need to be located near resource bases to reduce initial capital outlay and maintain product supply. What socio-economic impacts will these facilities have on rural communities?

DISCUSSIONS

The most important issue was the question of how producers can best organize themselves and acquire the capital needed to be effective players in this new economic environment. Traditional commodity production will likely continue, although reliance on the traditional approach to moving the product to market may mean that such producers will retain price premiums for new crops for only a short time. A division within the producer community may occur, where those farmers who elect to use the traditional commodity markets would be the economic losers in a biobased economy. Contracts that reflect demand and supply have advantages and disadvantages, particularly if they are long-term. A five-year contract, for example, may protect the grower from downturns in market price, or it may preclude reaping the benefits of periodic upturns in demand and price. New, more flexible, contract arrangements may be needed, but such arrangements may well increase grower exposure to market volatility as well as offer opportunities to profit from new technologies and crops.

Much of the discussion dealt with new structural forms that could better position producers to capture economic benefits in a biobased economy. One example is that of the 21st Century Alliance, who shared their entrepreneurial strategy at the conference. Their focus is farmer-participation in processing and marketing, an approach that will help growers capture more of the added-value component of biobased products. This option will range from full ownership and vertical integration of producers, to developing synergistic relationships with industry. One example of the latter would be that of a group of producers becoming essentially the sole suppliers of certain agricultural products, thereby ensuring a supply to the processor and protecting the intellectual property rights of the company that develops new knowledge. Other approaches involve restructuring agricultural businesses to capture niche markets or to use new technology to capture a greater share of the market value of transformed agricultural products.

Implementing many of these approaches, especially producer ownership of processing and distribution, will require large capital investments. This may be difficult to obtain, particularly at this time, when farmer resources — especially cash resources — are very limited. Offering land as guarantee for venture capital is risky. Furthermore, moving upward in the processing and marketing hierarchy will probably not be a panacea, because these sectors of the food, fiber and fuel industries are very competitive. Some large distributors have gone into direct purchasing or contract production, thereby eliminating several traditional middlemen (wholesalers, etc.).

Another major issue can be summed up in one word: change. The transition to a biobased economy will be technology- and market-driven, and the educational and skill needs of farmers will change concomitantly. Traditional attitudes and expertise may no longer serve farmers well. Embracing and taking advantage of rapid change will require problem-solving ability and analytical thinking. The traditional approach of lengthy research to verify recommendations that pass through a review process to Extension and finally reach the farmer will not be effective in a world of fast-paced change. Any given set of data or new production practices may be outdated before they reach the farmer.

Related to the previous issue, our third focus was specifically on the skills and attitudes that farmers will need in order to survive in a technologically sophisticated environment, where traditional individual entrepreneurship may not be the most appropriate way of making the most of economic opportunities. Attitudes that traditionally served farmers well may be ill-suited to this new environment. Strong individualism, for example, may need to give way to building alliances and partnerships. Similarly, farmers and the institutions that assist them may need to re-think their roles. Farmers will need to become researchers and teachers, as well as businessmen, and university researchers will need to learn entrepreneurship to assist farmers in reaping maximum economic benefits. In short, the attitudes, skills, and knowledge of farmers and other agricultural professionals must change if farmers are to take full advantage of a biobased economy.

Regarding the fourth issue — increased liability as farmers move more into processed products and marketing — one advantage of the traditional approach to marketing is that farmers' liability for product damage has been limited. In most cases, the processor and marketer of a product is held liable for any damage to consumers. Also, farmers have not been held accountable for some of the environmental costs associated with producing food, fuel and fiber, because their liability has essentially ended at the farm gate. This, however, has changed in recent years. And as farmers move into new products, processing, and marketing, the potential liability — particularly consumer liability — will increase.

Finally, our group focused on the question of how processing facilities that are tied to new biobased products will affect the communities in which they are located. These factories will need to be located near to the sites of production of the raw material, the agricultural product, but will have many requirements, including power, infrastructure, transportation, labor, and human capital. Therefore, as they develop, it is clear that there will be major socio-economic implications for rural communities. Labor is a good example; getting enough of it is already a problem for many farmers. Processing industries will demand not only labor, but also new skills and knowledge. How will influxes of such labor affect rural communities? Similar issues arise for the other components essential for building and operating large-scale processing facilities.

In our final session, we chose not to address the issue of increased liability. For the other four priority issues, we analyzed the inherent challenges, problems, opportunities and promises, and then looked for ways to overcome the challenges to take advantage of the opportunities. Several recommendations resulted.

Structure and Financing: Three opportunities exist, associated with the need for new forms of organization and financing.

- The potential for improving the economics of farming is high, since, in a biobased economy, the opportunities for farmers to participate in all aspects of product development and sales will increase.
- Similarly, a strong role for biobased products in the economy offers the producer opportunities for longer-term, more stable, market relationships, and synergistic associations in which farmers and processors benefit.
- The technological sophistication of new biobased products will offer opportunities for shared interests on the part of producers and processors, and the possibility of proprietary production methods extending from farm to market. On the other hand, these new structural and financial arrangements also pose challenges, e.g. decreased independence of the producer. As a farmer develops alliances either with other farmers or with businesses in other sectors of the food, fuel, fiber, and chemicals industry, his traditional independence is lessened. The other challenge is that the potential for losing the fundamental farm resource — the land — is high, if it is used as the capital to finance new organizational and production arrangements.

Recommendations To finance the structural changes needed, we recommend the formation of joint ventures between farmers and industry to share risk, as well as both formal and non-formal alliances among farmers and between producers and other segments of the food, fuel, fiber, and chemicals industry. Farmers have not traditionally been involved in raising the venture capital that may be a key to success in the future. Two conference presentations discussed useful new approaches to finding venture capital.

A Rapidly Changing Environment: Farmers will have opportunities to use biotechnologies of many types to broaden marketing mechanisms open to them, and to increase the kinds of products that they sell and their share of the consumer dollar. Dependence on highly volatile markets will decrease commensurately. The alliances discussed above may help farmers anticipate and take advantage of change. By working closely with other segments of the business community — from suppliers of inputs to marketers — farmers will gain access to information of all types and will probably have a more robust set of tools for analyzing that information. On the other hand, there are considerable risks associated with rapid change. One is that the public research and Extension system is simply too slow to respond effectively to a rapidly changing

technological and economic environment. Another related concern is the quality of the data available for decision-making. Clearly, all decisions are made based on imperfect or incomplete knowledge. However, as change accelerates, the need to make decisions even more rapidly may force farmers into decision-making based on less — and potentially less accurate — information. Added to this is the fact that the technology and its related economics are still largely unknown. Such unknowns add significant risk to decision-making. Finally, even the most skilled and knowledgeable decision-maker, even if backed by adequate capital, may not be able to meet the challenges of the highly volatile, rapidly evolving marketing environment.

Recommendations There is need to enhance the flow of information to the producer. We recommend that this may be achieved by developing an institutional framework that is more entrepreneurial and product-focused than the current research and Extension system. Researchers in the chain must focus on end-product development. This will require changing institutional rewards to encourage entrepreneurial thinking, and training researchers and Extension personnel to think beyond simply developing knowledge to developing a marketable product.

Attitudes, Skills and Knowledge: The biobased economy offers producers the promise of more-stable, higher farm-based income. Smaller producers may develop skills and expertise in producing goods with low volume but high value, and larger producers can take advantage of larger markets for new biobased products. A producer with the appropriate skills, attitude, and knowledge will have opportunities to move beyond merely growing food and feed to participating in business ventures in which there are higher demands for, and profitability of, value-added crops. Exploiting these opportunities will require new ways of thinking: in many cases there will be less emphasis on production and more on business skills, less emphasis on individualism and more on building partnerships and alliances.

Recommendations The key to taking advantage of these opportunities lies in developing analytical and problem-solving skills. We recommend training programs both for producers and for agricultural professionals that will emphasize how to find information efficiently and how to evaluate its quality. In a rapidly changing technological and economic environment, knowing where to get information, how to evaluate it, and how to use it, will be keys to success for all agricultural professionals, including farmers.

Socio-Economic Impacts on Communities: No clear recommendations for action emerged. Many questions arose. Will the school systems in rural areas be able to prepare the work force demanded by these industries? Will local labor supply be sufficient to meet the needs of processors? Will processing have negative impacts on the quality of life many people value in rural areas? Will the infrastructure support the development and operation of such crop-processing facilities? In short, are we aware of the profound effects that locating

major processing facilities in rural areas would have on local communities? Given the current status of rural communities, it is not clear that they are capable of supporting and meeting the needs of robust processing industries. This factor may slow the development of a biobased economy.

SUMMARY

The development of a biobased economy offers great potential and great challenges. While the potential economic benefits of these changes to producers and their communities are great, reaping these benefits will require new ways of doing business, new forms of organization, new avenues for transferring knowledge to producers, and new attitudes, skills, and expertise for all involved. We believe that one phrase describes the future of producers and rural communities: it will be different. The ability to cope with change is, clearly, the key to success.